

REMARKS

In the Office Action, the Examiner made the election requirement final, objected to the drawings, rejected the claims 26, 31 and 36 under the second paragraph of section 112, rejected claims 18, 19, 22, 34 and 35 as anticipated by the Love III reference, rejected claims 23 – 26, 31 and 37 as obvious over Love III in view of Sondergeld et al. Additional references are cited of interest without being relied upon.

Election Requirement

The election requirement as initially made indicated that no claim is generic to all the disclosed species of the invention. In the response, Applicants have shown that all independent claims and a significant number of dependent claims are generic to all the disclosed species. In making the election requirement final, the Examiner bases the requirement on fact that the figures show many different species. This is an improper basis for an election requirement. The Examiner has shown no undue burden from searching the various species of the invention, nor different classifications of the patent art for the respective species. No basis for the election requirement is provided.

Applicants continue to traverse the election requirement, request rejoinder of the non-elected claims and reserve the right to petition the election requirement.

The claims withdrawn from consideration by the Examiner are so marked in the foregoing.

Drawing Objection

The drawing Figure 2 has been amended to include the control unit connected to actuate the inking station and the cleaning station. The control unit is disclosed in the specification at page 5, lines 2 – 5, of the specification as filed, and is claimed in original claim 13 and new preliminary amendment claim 34. The drawing amendment adds only that which has already been disclosed in the original application, and so no new matter is added thereby. Approval of the drawing change is hereby requested.

A corresponding change is made in the specification as well.

35 USC ¶112, 2nd ¶

The rejection of claim 26 is addressed by claiming one of the additional measures provided by the invention, in particular by combining claims 26 and 27.

In claim 31, the printing fluid collected by the cleaning station is conducted back to the inking station. This is described on page 10, lines 26 – 29, of the specification and is shown in Figure 2 by the compensating line 110 carrying the printing fluid from the cleaning station 100 to the printing station 54. Figure 3 also shows the conducting line 110b between the cleaning station and inking station. Thus, the claim is supported by the disclosure and drawings. By reference to the specification and drawings, the claim is clear how this step is performed.

Claim 37 has been redrafted in independent form so that is no longer depends from a claim withdrawn from consideration.

35 USC §102(b)

The Love, III reference discloses a printing system having a print transfer area with hydrophobic and hydrophilic materials applied to areas and using either aqueous or oleo ink to develop and print the image. The image transfer surface is a planographic plate or cylinder or as shown in Figure 11 a gravure roller. In Figure 11 is shown the gravure roller with impressions formed therein. The roller is described as non-planographic, gravure type cylinder with depressions, wells or grooves. A hydrophobic material is applied to the surface of the cylinder and then selectively removed by ablation. Printing is performed according to conventional gravure printing practice by application of an aqueous ink of the cylinder coated with the hydrophobic material, followed by a doctoring step so that the image is generated by the ink avoiding the areas having the hydrophobic material. The image is then transferred to a substrate. At col. 24, lines 30 –34, the gravure roller is cleaned with conventional methods so that the hydrophobic materials are removed by ablation, after which another coat of the hydrophobic material is applied.

No disclosure is found of cleaning the depressions in the gravure plate of the ink. Love, III is concerned with the removal of the hydrophobic material. No disclosure is found in Love, III of controlling the quantity of ink in gravure depressions. Applicants submit that

the Love, III reference does not anticipate the claimed invention. Withdrawal of the rejection is hereby requested.

35 USC §103(a)

The Love III reference is discussed above.

The Sondergeld et al. reference discloses a method and apparatus for cleaning printing cylinder surfaces wherein a cleaning agent is applied to the surface for preferably greater than 60 minutes. According to the reference, the cleaning is performed while the printer is at a maintenance or other standstill. The cylinder is a print cylinder of an offset printing machine and has surface valleys. An alkaline cleaning agent applied to the surface and permitted to remain on the surface for a time and then is washed off with water or steam. A manual cleaning is disclosed or an automated cleaning device with a cloth type washing device or a high pressure washing device to wash the cleaning agent from the surface.

The combination of the two references fails to teach the improvements of the present invention. In particular, the present invention provides a printing apparatus wherein a predetermined quantity of printing fluid is applied in each of the depressions in the printing drum. The quantity of the printing fluid is critical to the successful operation of the printer, since a difference in the quantity of the fluid would result in printing of printing fluid from depressions that are not to be printed, or would result in no printing of printing fluid from depressions that are to be printed. The printing or non-printing of the fluid requires a specific quantity of the fluid in the depression and then treatment of the fluid to change the wetting angle of the fluid on the side wall of the depression. A very small difference in the quantity makes for printing errors.

To ensure that the correct quantity of the printing fluid is provided in the depressions, the depressions must be cleaned of printing fluid before each inking step. This is provided in the claims by the simultaneous operation of the cleaning station and the inking station during the printing operation.

One of skill in the art reading the Sondergeld reference would not perform the cleaning of depressions during the printing operation, but only when the printing roller could be soaked

in the cleaning agent for an extended duration of time, such as during servicing. Thus the invention provides a non-obvious improvement over the teachings of the prior art.

Considering the Love III reference would lead one to understand that the a hydrophobic material is required on the roller to block ink from the depressions that are not being printed. In Love III, since there is no ink in the depressions that are not being printed, there is no risk of color transfer of one ink to another from one inking operation to another. In claim 18, however, the ink remains in the depressions that are not being printed. This ink must be removed so that a color transfer does not occur by mixing of one ink color with another. This ink must also be removed to ensure that the predetermined quantity of ink is provided in the depressions during the inking operation. Any old ink that remains in the depressions as a result of poor cleaning would prevent the predetermined quantity from being put into the depression and thus would result in printing errors.

The present invention provides a constant quantity of printing fluid in the depressions. It also provides a constant quality of printing fluid in the depressions. The cleaning station and the inking station are simultaneously working so this result is achieved.

The prior art fails to anticipate or obviate the claimed invention. As such, the invention is patentable thereover and allowance of the application is in order.

Additional Art

The additional art cited by the Examiner but not relied upon is noted by the Applicants.

Conclusion

Applicants respectfully request reconsideration of the election requirement, and favorable reconsideration and allowance of the present application.

Respectfully submitted,



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Annotate Sheet Showing Changes

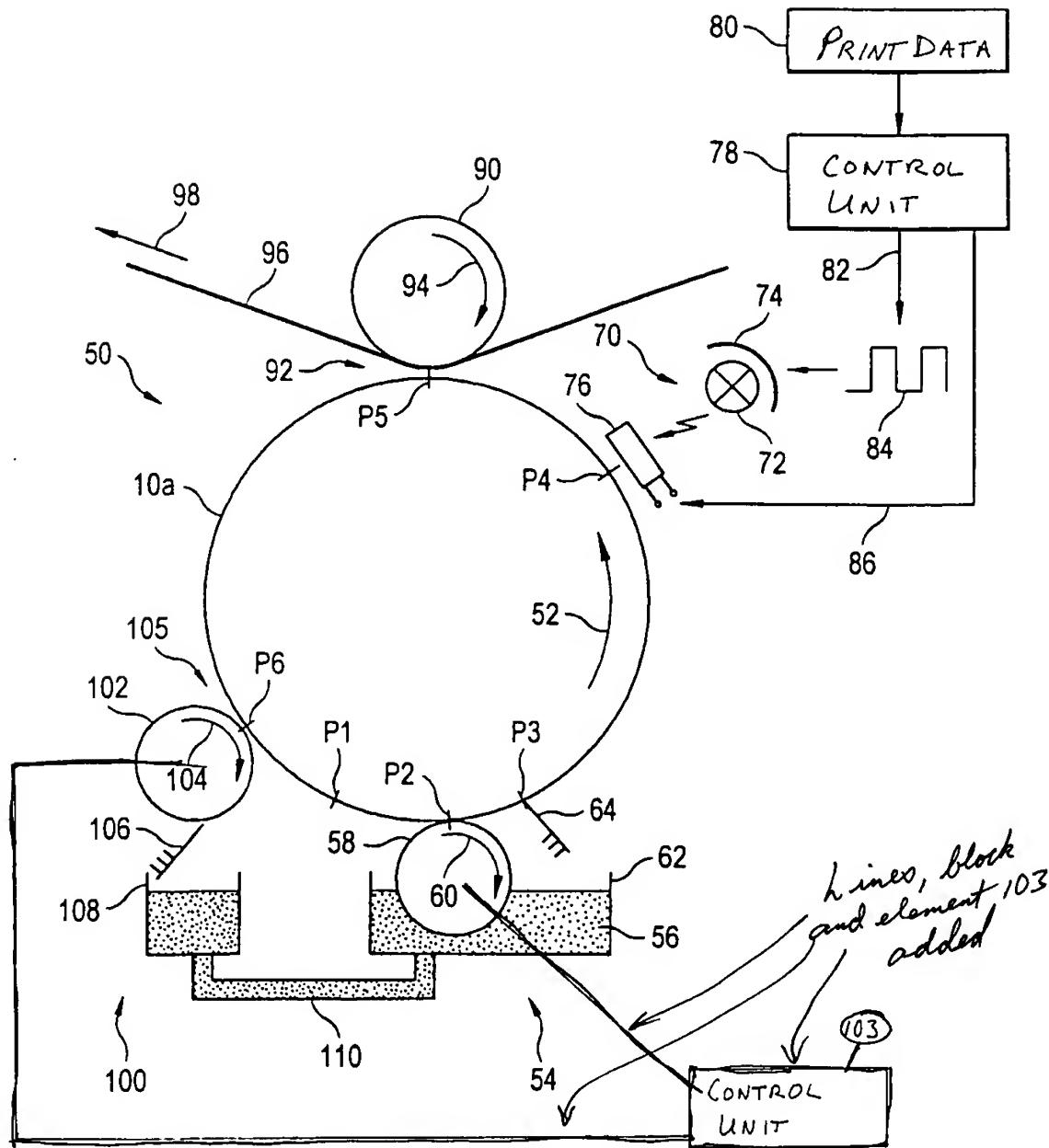


FIG.2